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ALLEMAGNE

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Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

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Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

ALCATEL

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☐ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

2

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 5 774 002 A (GUO SONG-YUEN ET AL) 30 June 1998 (1998-06-30) * column 1, line 12 - column 1, line 18 * * column 2, line 40 - column 2, line 57; figures 2,8 *	1-8	H04B10/06 H04B10/17 H04L7/00
Y	FR 2 491 702 A (VEILLARD JACQUES) 9 April 1982 (1982-04-09) * page 1, line 4 - page 1, line 13 * * page 2, line 28 - page 2, line 33; claim 5; figure 1 *	1-8	
A	US 5 706 113 A (KAMATANI OSAMU ET AL) 6 January 1998 (1998-01-06) * abstract; figure 18 *	1-8	
A	US 5 760 948 A (BIGO SEBASTION) 2 June 1998 (1998-06-02) * abstract *	1-8	
A	US 4 158 105 A (NOGUCHI TOSHITAKE ET AL) 12 June 1979 (1979-06-12) * abstract; figure 3 *	1-8	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H04B H04L
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 16 September 2003	Examiner Phillips, S
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 36 0051

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-09-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 5774002	A	30-06-1998	JP	2563156 B2	11-12-1996
			JP	7303097 A	14-11-1995
FR 2491702	A	09-04-1982	FR	2491702 A1	09-04-1982
US 5706113	A	06-01-1998	DE	19506380 A1	24-08-1995
			JP	3386090 B2	10-03-2003
			JP	7287263 A	31-10-1995
			US	5574588 A	12-11-1996
			JP	3314797 B2	12-08-2002
			JP	7287264 A	31-10-1995
US 5760948	A	02-06-1998	FR	2738927 A1	21-03-1997
			CA	2185579 A1	15-03-1997
			DE	69603238 D1	19-08-1999
			DE	69603238 T2	30-03-2000
			EP	0763912 A1	19-03-1997
			JP	3178792 B2	25-06-2001
			JP	9105961 A	22-04-1997
US 4158105	A	12-06-1979	JP	1062691 C	31-08-1981
			JP	52142408 A	28-11-1977
			JP	56002465 B	20-01-1981
			CA	1095594 A1	10-02-1981
			IT	1077175 B	04-05-1985



This application is covered by the extended European search report pilot project at present running within the European Patent Office, applied to all European patent applications filed as first filing and searched on or after 01.07.03. Under this project the EPO issues together with the search report an opinion on whether the application and the invention to which it relates meet the requirements of the EPC. This non-binding opinion is issued free of charge as a service. This opinion may be used as the basis for an informed decision as to whether it is desired to pursue the application further or not.

For further details of this pilot project, the applicant's attention is directed to the Official Journal edition 5/2003. If any further immediate questions or comments arise the EPO Customer Services: +31-70-340 4500 or +49-89-2399 2828 can be contacted.

The attached opinion reveals that the application or the invention to which it relates appear not to meet the requirements of the Convention (see comments on enclosed Form 2906).

If the applicant wishes to continue with this application the examination fee must be paid. Where appropriate amendments can be filed to address the objections raised in the opinion, thus shortening the overall procedure. If no amendments are filed, the opinion will be re-issued as the first official communication under Article 96(2) and Rule 51(2) EPC.

If the examination fee has already been paid and the right to the communication under Article 96(1) EPC has been waived for this application, the first official communication under Article 96(2) and Rule 51(2) EPC will be issued promptly.



The examination is being carried out on the **following application documents**:

Text for the Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR LI

Description, pages:

1-7 as originally filed

Claims, No.:

1-8 as originally filed

Drawings, sheets:

1/3-3/3 as originally filed

1. The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: US-A-5 774 002

D2: FR-A-2 491 702

2. The application does not meet the requirements of Article 84 EPC, because the claims are not clear as follows:

Claims 1,7,8: The word "for" is taken to mean "suitable for" (see the Guidelines, C-III, 4.8) and thus the features which follow "for" do not limit the scope of protection of the claims.

Similarly, the wording "in particular" does not limit the scope of protection of the claims.

Furthermore, it is not clear how the various features of the claims are interconnected.

Claim 2: The word "around" is vague and unclear.

Claim 8: Computer software in itself is not capable of performing the



function claimed until it is run on a suitable processor.

3. Document D1, which relates to an optical receiver for receiving digitally transmitted data, is considered to be the closest prior art to the subject matter of **claim 1** and discloses a clock recovery device for optical data signals comprising a photodetector, a frequency doubler and a clock recovery circuit (see search report for relevant passages).

The subject matter of claim 1, in so far as it can be understood, differs from the disclosure of D1 in that rather than only doubling the frequency of the converted electrical signal, the frequency is multiplied by a factor n which is larger than 2.

In seeking a solution to the problem of how to enable the clock recovery circuit known from D1 to perform satisfactorily with recovered signals which have suffered distortion due to the presence of dispersion in the transmission system and hence have missing higher frequency spectral components, the skilled person would consider document D2 which discloses in Figures 1 and 4 a clock recovery system in which the frequency of the input signal is multiplied by a multiplier (21) before being applied to the clock recovery circuit. This would have the effect of producing harmonic frequencies which could replace the frequencies known to be missing in the recovered signal due to the presence of dispersion in the transmission system (see the description of the present application page 2 lines 19-27).

Hence it would be obvious for the skilled person to take the teaching of D2 and apply this to the system of D1 and hence arrive at the subject matter of the present claim 1. Thus, the present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of **claim 1** does not involve an inventive step in the sense of Article 56 EPC.

4. The generation of signals by computer software is well known and the multiplication of frequency by an integer is considered to be comprised in the knowledge of the skilled person. The word "clock" in this case is not limiting since it pertains to an intended use of the signal rather than to the signal itself. Hence the present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of **claim 8** is not new in the sense of Article 54(1) and (2) EPC.
5. The following dependent claims do not appear to contain any additional features which, in combination with the features of claim 1, meet the requirements of the EPC with respect to novelty and inventive step, the reasons being as follows:

Claims 2-7: This subject matter relates to mere choices from a number of



obvious alternatives which a skilled person would make without exercising inventive activity.

6. The applicant is invited to file new documents which take account of the above comments. In addition, to meet the requirements of Rule 27(1)(b) EPC, the prior art documents D1 and D2 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.
7. When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).

In order to facilitate the examination of the conformity of any amendments with the requirements of Article 123(2) EPC, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based. (cf. the Guidelines E-II, 1).

Preferably these indications should be submitted in handwritten form on a copy of the relevant parts of the application as filed.